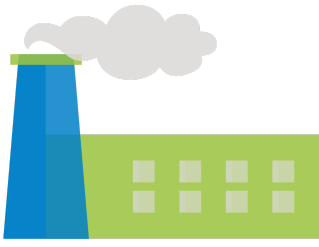




# Putting a price on carbon and giving back the money to citizens?

## A policy endorsed by

- 28 Nobel Laureate Economists
- all 4 Former Chairs of the US Federal Reserve
- 15 Former Chairs of the US Council of Economic Advisers
- more than 3500 academic economists

## Carbon Fee & Dividend

Carbon Fee	Carbon Dividend	Border Adjustment (or International Carbon Price Floor)
		
On fossil fuels, paid at the point of production (or importation)	Return of fee revenues in equal lump-sum rebates to the citizens	Protects industries from unfair international competition
Improves competitiveness of low-carbon industries	Renders a high carbon price socially sustainable	Prevents carbon leakage (exportation of polluting processes)
Rising steadily every year for predictability	Harnesses support from citizens	Promotes worldwide adoption

**Leaflet available for download**

<https://archive.org/details/leaflet-CFD-and-ICPF>



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# CF&D and ICPF

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This leaflet was made to gather the attention of the public and negotiators on the **Carbon Fee & Dividend** policy (CF&D), as endorsed in the Economists' Statement on Carbon Dividends (see cover), and also on the **International Carbon Price Floor** (ICPF) as detailed in the IMF's Climate Note: Proposal for an International Carbon Price Floor among Large Emitters.

A high carbon price on fossil fuels would allow low-carbon alternatives to thrive. Jointly, the ICPF and CF&D could help overcome the two main obstacles in implementing this high carbon price. An agreement on an ICPF among the world largest GHG emitters would guarantee transparent and fair international economic competitiveness. Nationally implemented CF&D policies would make a high carbon price sustainable for their citizens.

**Disclaimer:** this leaflet has been written by a member of the NGO Citizens Climate Lobby France (see <[citizensclimatelobby.org](http://citizensclimatelobby.org)>). It does not represent the views or beliefs of the organization, and the author is solely responsible for its content. For any enquiry please contact: <[leaflet-cfd-icpf@mailbox.org](mailto:leaflet-cfd-icpf@mailbox.org)>

Additionally, this leaflet quotes diverse reports and scientific articles. In the same manner, this leaflet does not represent the views and beliefs of the source's respective institutions and authors.

Have fun reading it!

## I. Fossil fuels are powering our industrial societies

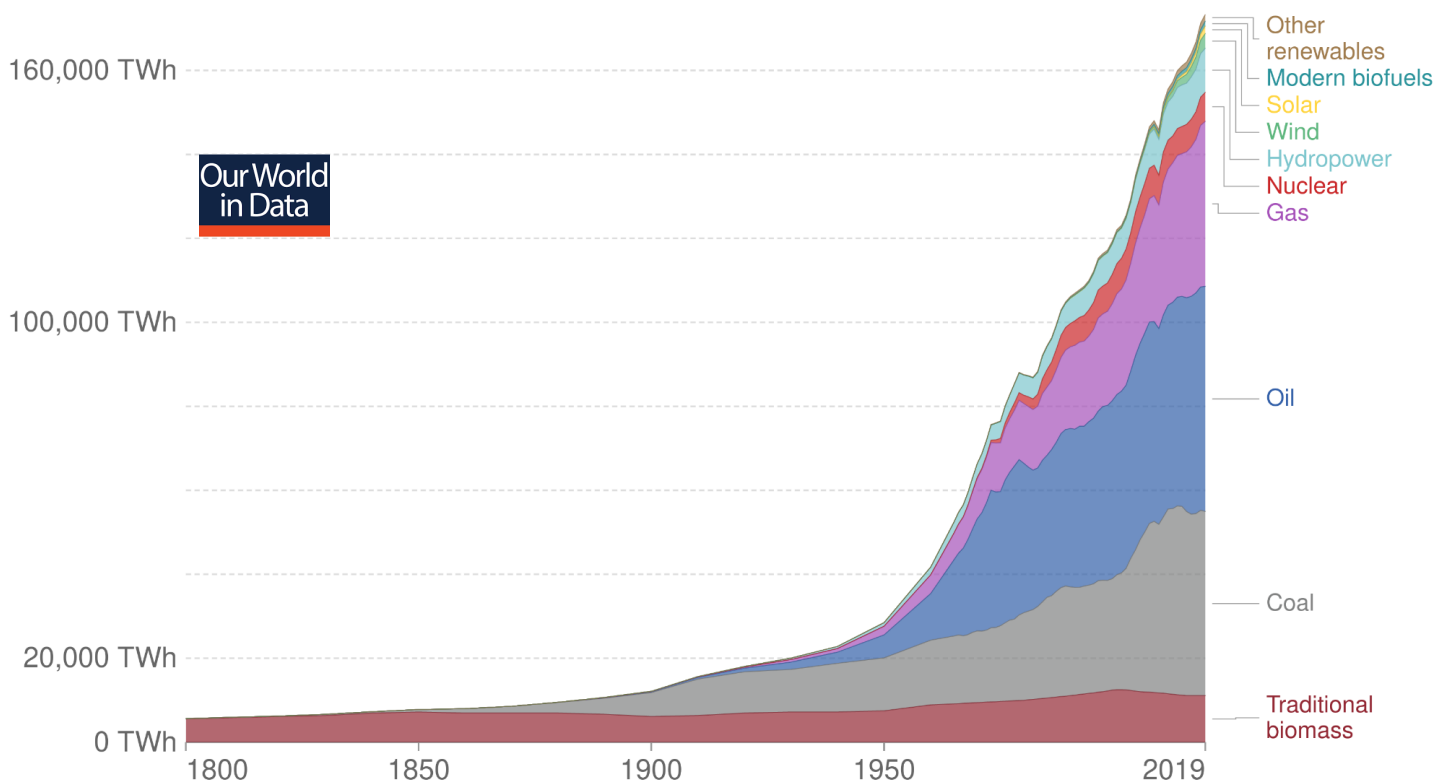


Figure 1. Global primary energy consumption by source (arranged from [OurWorldInData - Energy Production and Consumption](#)).

Thanks to fossil fuels and other energy sources, our societies harnessed 175'000 TWh in 2019. Divided by 7.6 billion humans, this represents on average **23 kWh per person**.

Over an 8-hour work shift, an adult human of good fitness may sustain an output of about 0.1 horsepower, which is the energy equivalent of 75 watts. Working 5 days a week, 52 weeks a year, this would sum to around **2 kWh**. Therefore, in 2019, **each human had 11 “energy-workers” at his disposal**, mostly thanks to fossil fuel combustion. This is a global average, and some countries have consumed and are consuming much more energy per capita than others.

The industrial revolution multiplied the physical power with which our societies extract and transform natural resources **by a factor 10 to 100**. A gigantic fleet of motors and machines, powered by fossil fuels and other energy sources, amplifies our ability to dig, cut, perfor, extrude, twine, compact, flatten, heat up, cool down, transport, and so on.

Today, the most used energy source globally is still, by far, fossil fuels.

## II. GHG are building up in the atmosphere

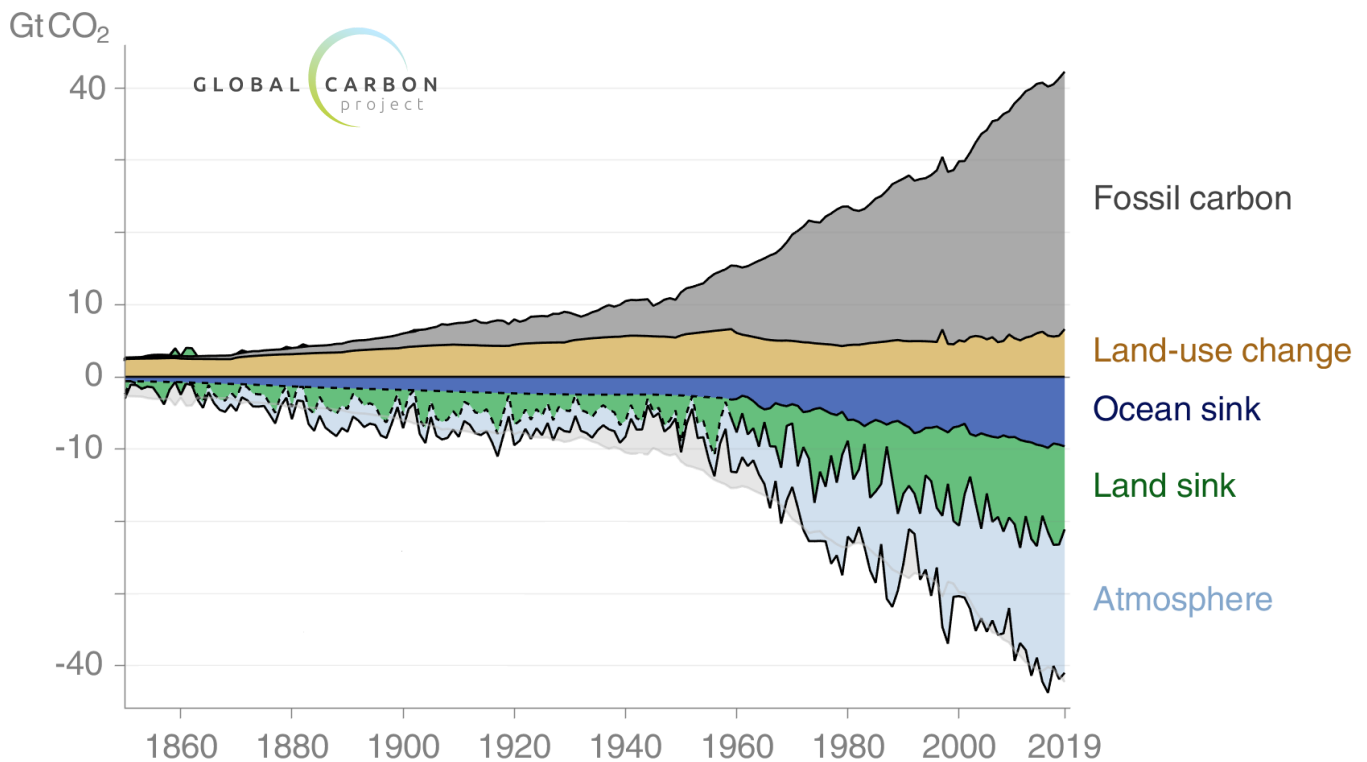


Figure 2. Global balance of CO<sub>2</sub> sources and sinks (arranged from [Global Carbon Project - Global Carbon Budget 2020](#)).

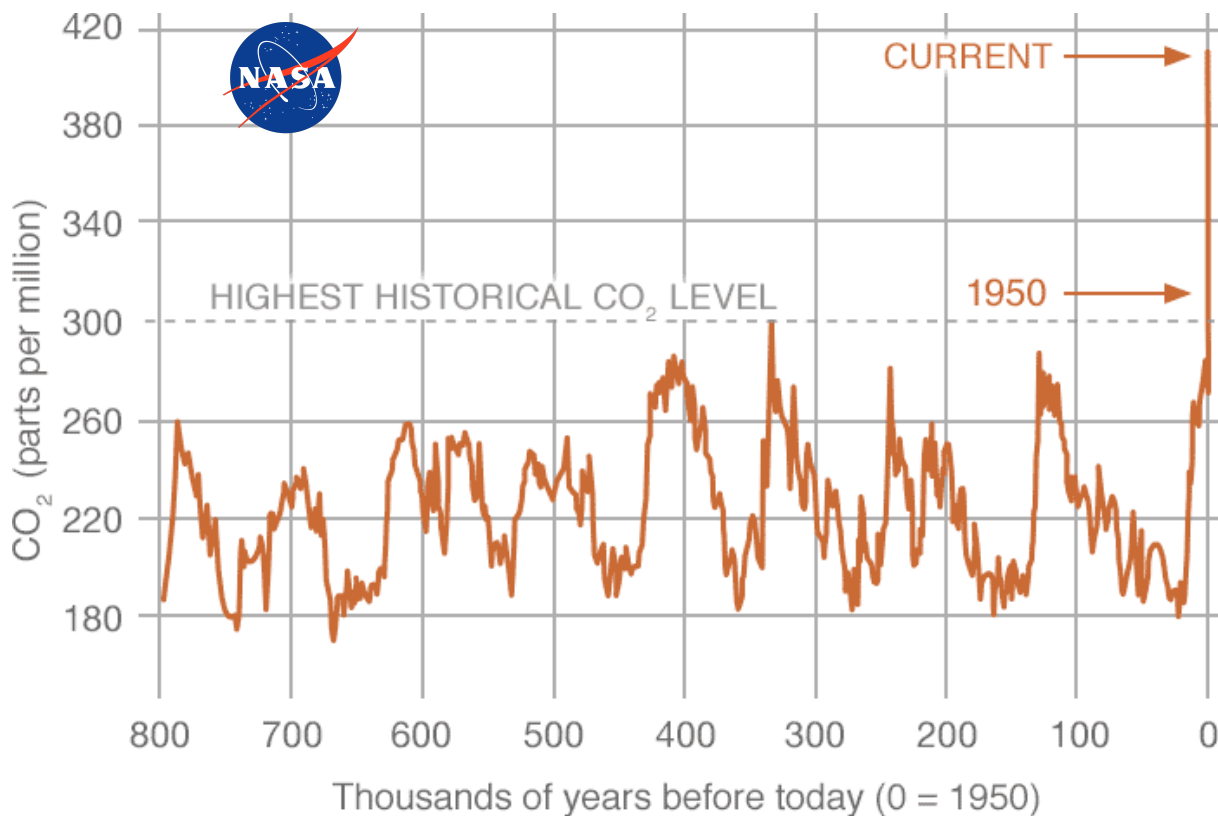


Figure 3. Atmospheric CO<sub>2</sub> concentration since 800'000 years ([NASA: Global Climate Change - Carbon Dioxide entry](#)).

### III. Causing anthropogenic climate change

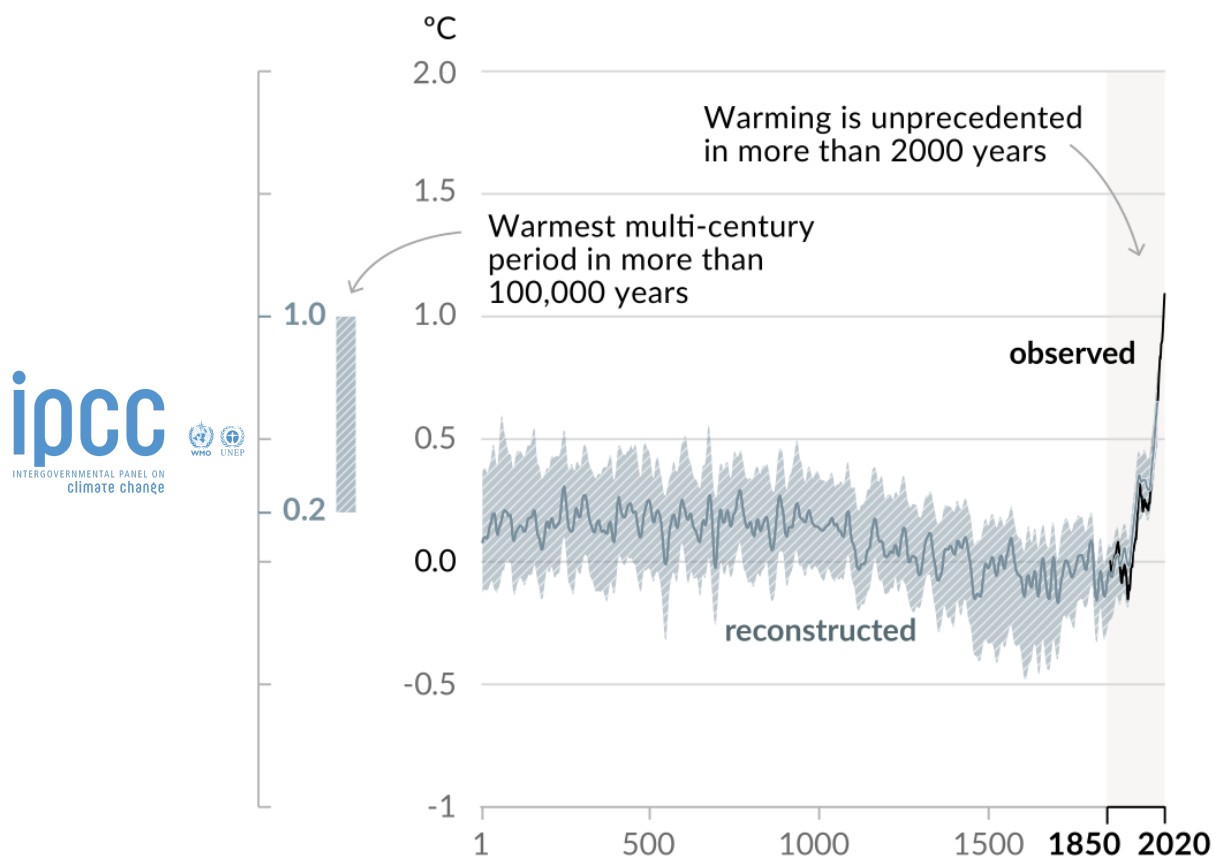


Figure 4. Change in global surface temperature relative to 1850-1900 (decadal average) as reconstructed (1-2000) and observed (1850-2020) (IPCC AR6 SPM).

From the IPCC [AR6 SPM report](#):

“It is unequivocal that human influence has warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred.”

“Many changes in the climate system become larger in direct relation to increasing global warming. They include increases in the frequency and intensity of hot extremes, marine heatwaves, and heavy precipitation, agricultural and ecological droughts in some regions, and proportion of intense tropical cyclones, as well as reductions in Arctic sea ice, snow cover and permafrost.”

“Limiting human-induced global warming to a specific level requires limiting cumulative CO<sub>2</sub> emissions, reaching at least net zero CO<sub>2</sub> emissions, along with strong reductions in other greenhouse gas emissions.”

## IV. Let's reduce our GHG emissions!

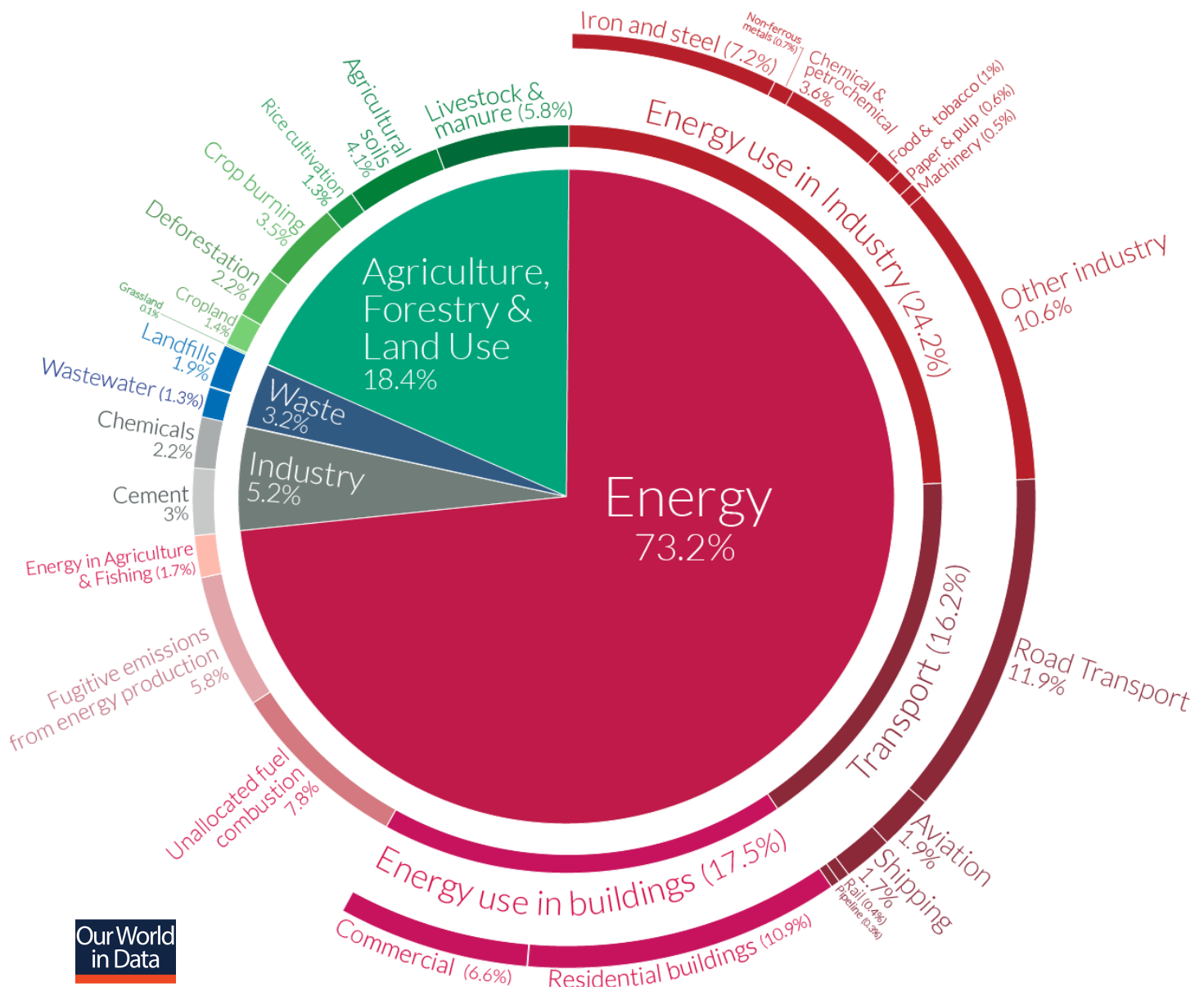


Figure 5. Global GHG emissions by sector for the year 2016 (arranged from [OurWorldInData - Emissions by Sector](#)).

All of the “Energy” section represents fossil fuels, except:

“Unallocated fuel combustion (7.8%): Energy-related emissions from the production of energy from other fuels including electricity and heat from biomass; on-site heat sources; combined heat and power (CHP); nuclear industry; and pumped hydroelectric storage.”

The vast majority of our GHG emissions comes from fossil fuels combustion.

## V. It's hard to say goodbye to fossil fuels

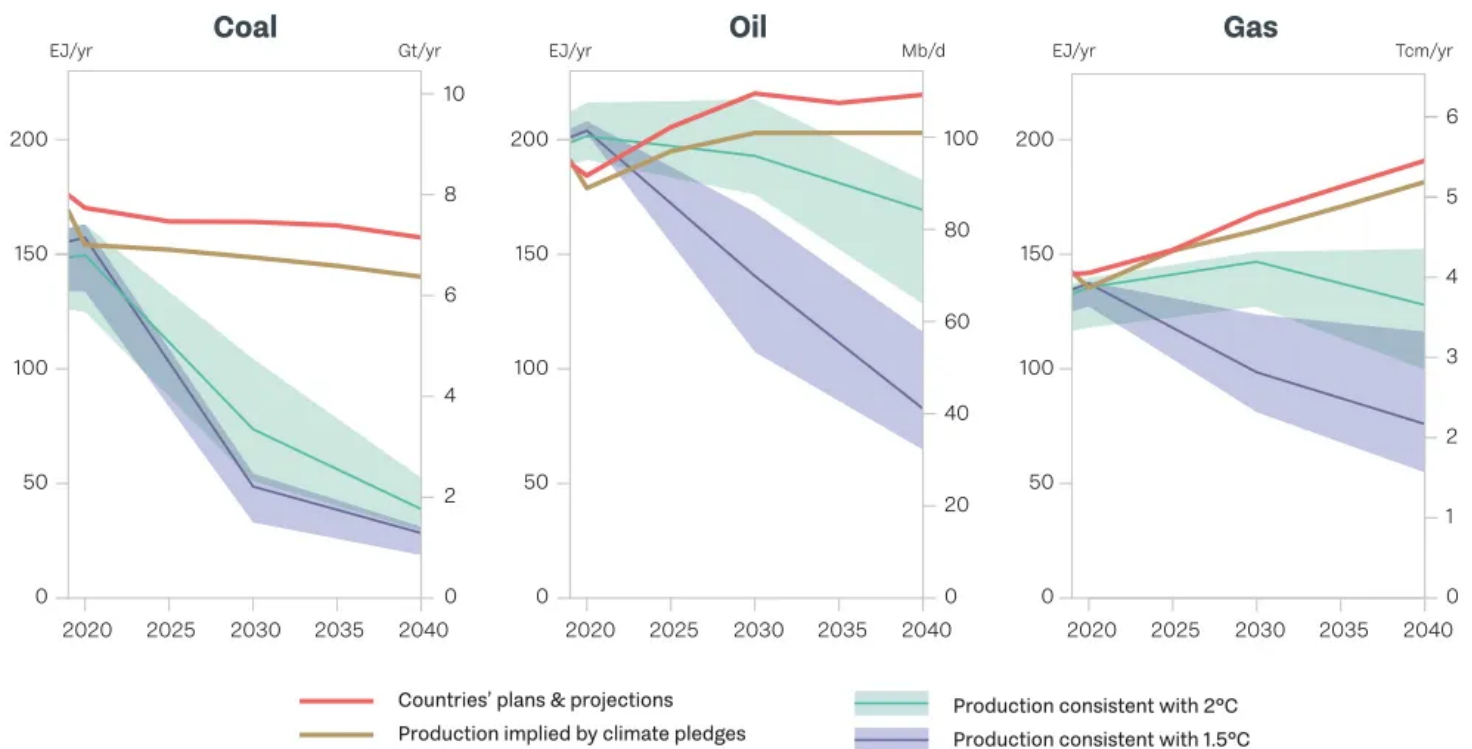


Figure 6. Comparison of countries' plans & projections for fossil fuels production with the amount consistent with 2°C and 1.5°C climate targets (The Production Gap - 2021 Report).

As seen before, fossil fuel combustion is at the core of the industrial revolution. Fossil fuels are linked to economic production and growth, and every country has a hard time cutting them off.

From [The Production Gap - 2021 Report](#):

“Governments are collectively projecting an increase in global oil and gas production, and only a modest decrease in coal production, over the next two decades. This leads to future production levels far above those consistent with limiting warming to 1.5°C or 2°C.”

“In 2030, governments' production plans and projections would lead to around 240% more coal, 57% more oil, and 71% more gas than would be consistent with limiting global warming to 1.5°C.”

“Governments' planned fossil fuel production remains dangerously out of sync with Paris Agreement limits.”

## VI. Maybe we should put a price CO<sub>2</sub> emissions

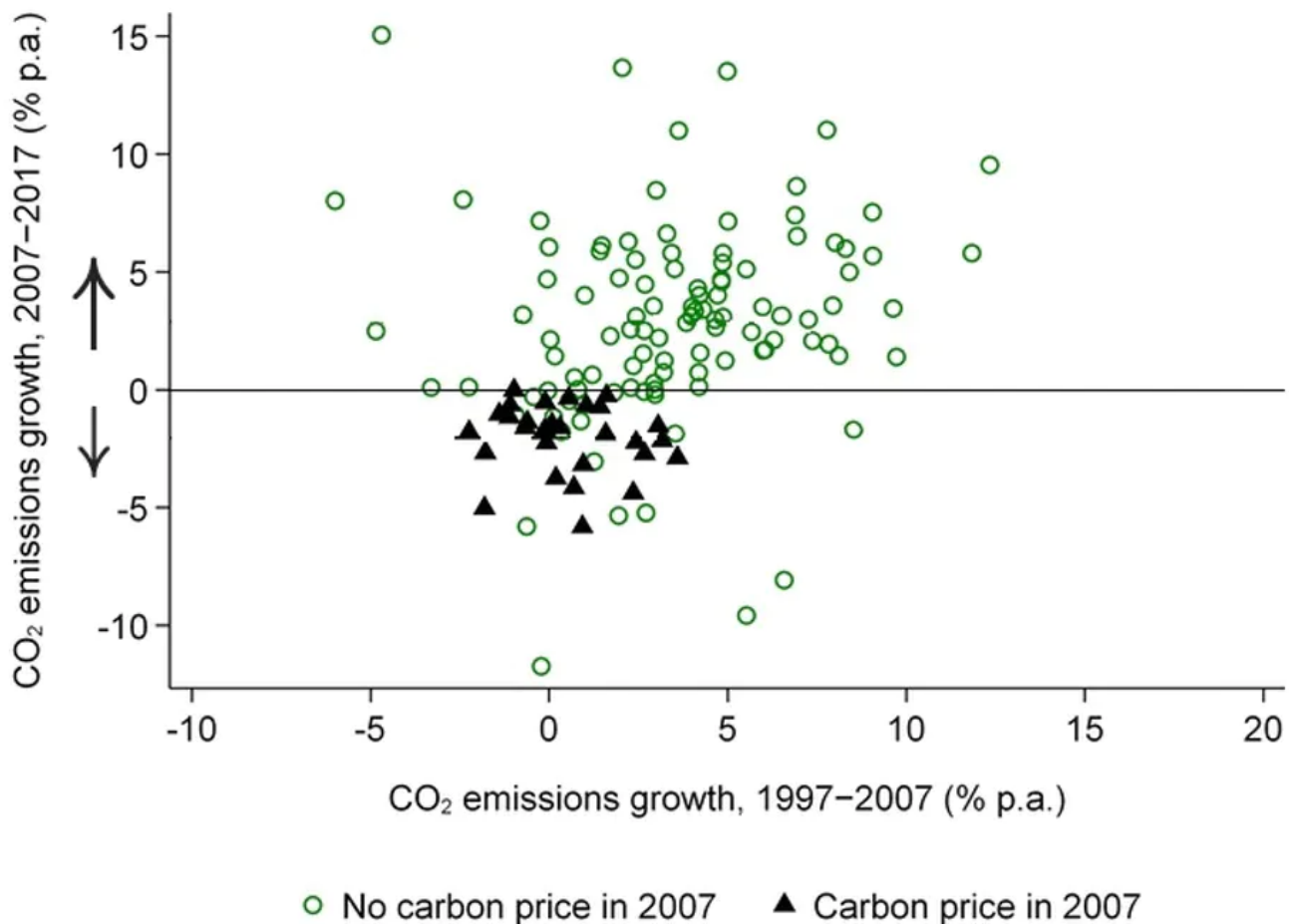


Figure 7. Evolution of CO<sub>2</sub> emissions from fossil fuels combustion of 142 countries, before (horizontal axis) and after (vertical axis) the introduction, or not, of a carbon price ([Best, Burke & Jotzo, 2020](#)).

From the [publication in The Conversation](#) by the authors of the study:

“On average, CO<sub>2</sub> emissions fell by 2% per year over 2007–2017 in countries with a carbon price in 2007 and increased by 3% per year in the others. The study finds that about two percentage points of that [difference] are due to the carbon price, with the remainder due to other factors.”

“On average an extra euro per tonne of carbon dioxide price is associated with a lowering in the annual emissions growth rate in the sectors it covers of about 0.3 percentage points.”

“Emissions tend to fall in countries with carbon prices.”



## VII. Carbon pricing is not used to its full potential

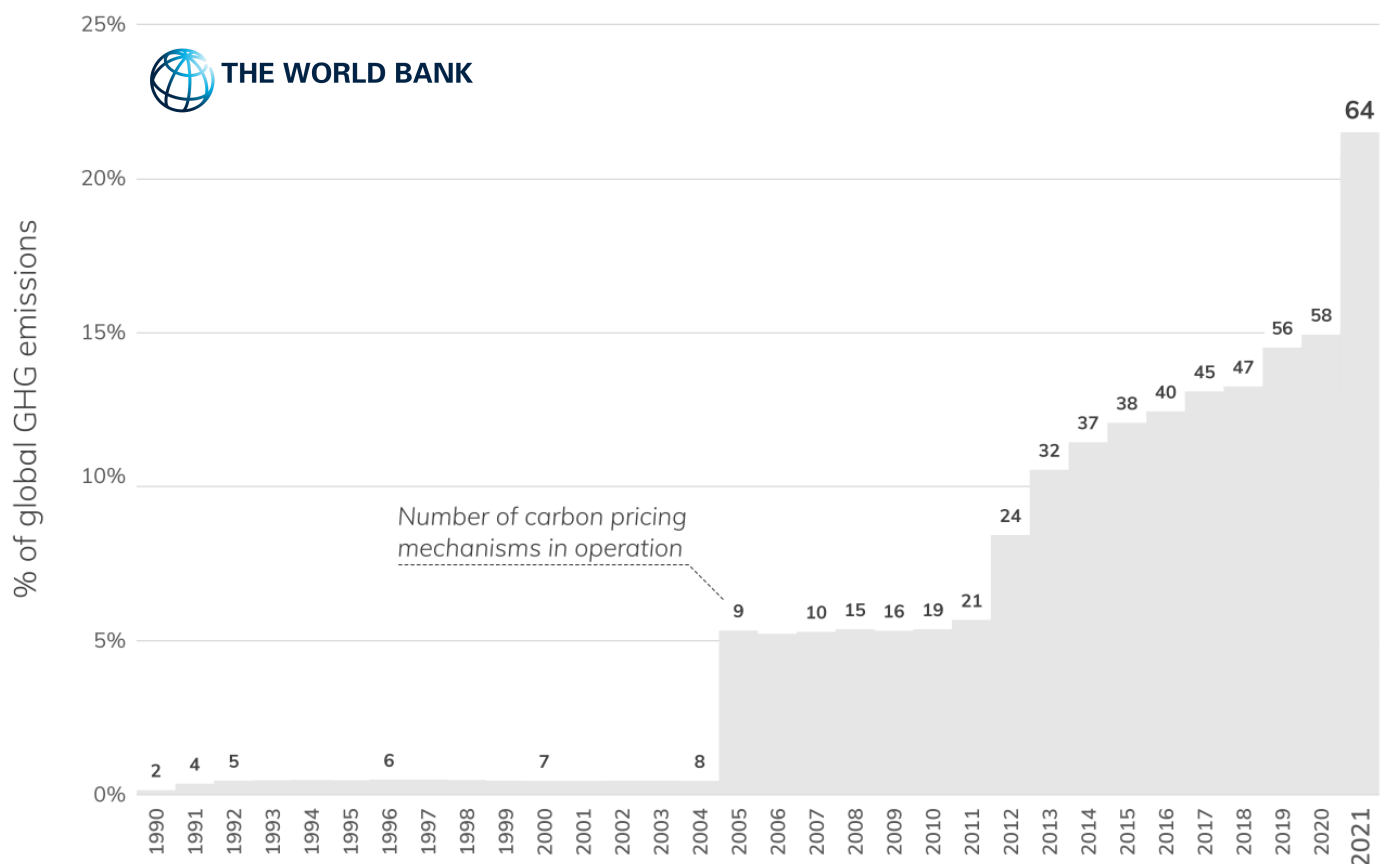


Figure 8. Share of global GHG emissions covered by carbon taxes and emissions trading systems (arranged from World Bank - State and Trends of Carbon Pricing 2021).

In 2021, there are 64 independent carbon pricing mechanisms in the world (either carbon market or carbon fee). Altogether, those 64 mechanisms are covering **only 20%** of global GHG emissions. The global average price (including jurisdictions where the price is zero) is **USD 3 per ton of CO<sub>2</sub>**<sup>1</sup>.

From the World Bank - [State and Trends of Carbon Pricing 2021](#):

“Only 3.76% of emissions are covered by a carbon price above USD 40 per ton of CO<sub>2</sub>e (the bottom range of 2020 prices recommended to be Paris compliant).”

“It is clear the potential of carbon pricing is still largely untapped, with most carbon prices below the levels needed to drive significant decarbonization.”

<sup>1</sup> IMF Blog, [“A Proposal to Scale Up Global Carbon Pricing”](#), Victor Gaspar and Ian Parry (June 18, 2021)

## Problem n°1: International economic competitiveness

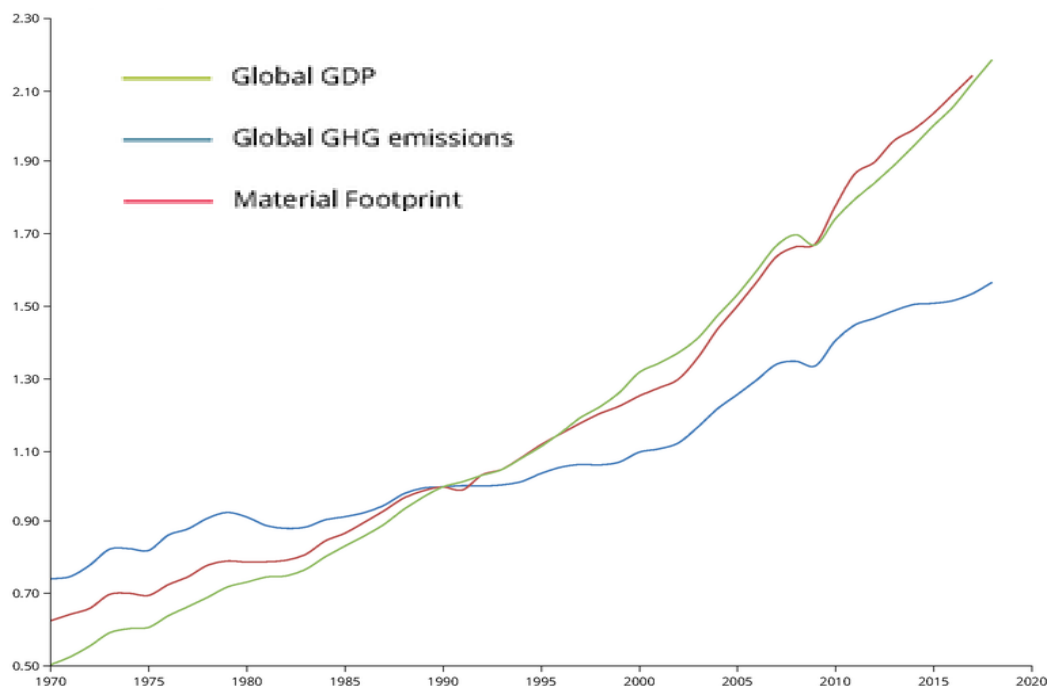


Figure 9. Relative change in main global economic and environmental indicators from 1970 (Wiedmann et al. (2020), arranged the graphic displayed in [European Environment Agency - Growth without economic growth](#)).

GHG emissions, material footprint and economic production are tightly coupled. The first country to implement a high carbon price would severely scuttle its economic competitiveness. There is no incentive to be first!

### Solution: International carbon price floor

From the IMF Staff Climate Note - [Proposal for an International Carbon Price Floor among Large Emitters](#):

“The **International Carbon Price Floor** has two key components: (1) it would be [firstly] negotiated between a **small number of key large emitting countries**, and (2) negotiation would focus on the minimum carbon price that each must put on their CO<sub>2</sub> emissions.”

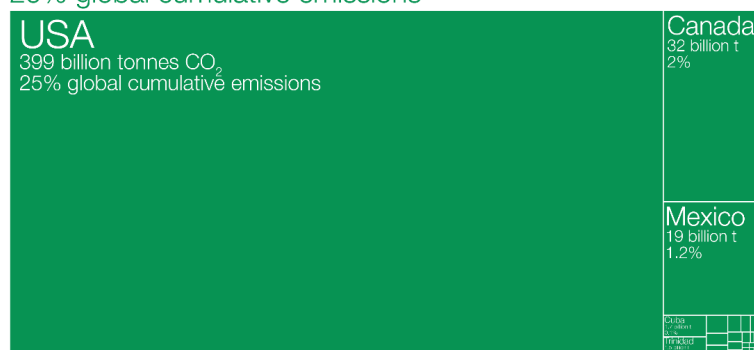
“The **ICPF** would be limited to a small number of large emitters which could still cover the bulk of global emissions. For example, the G20 accounts for 85 percent percent of baseline CO<sub>2</sub> emissions in 2030.”

“Reinforcing the Paris Agreement with an **ICPF** could jump-start emissions reductions through substantive policy action, **while circumventing emerging pressure for border carbon adjustments.**”

## Problem n°2: Historical emissions

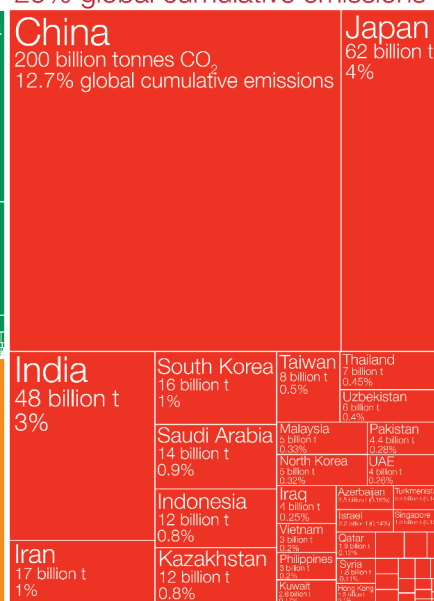
### North America

457 billion tonnes CO<sub>2</sub>  
29% global cumulative emissions



### Asia

457 billion tonnes CO<sub>2</sub>  
29% global cumulative emissions



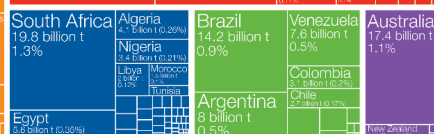
### EU-28

353 billion tonnes CO<sub>2</sub>  
22% global cumulative emissions



### Europe

514 billion tonnes CO<sub>2</sub>  
33% global cumulative emissions



Africa: 43 billion tonnes CO<sub>2</sub>  
3% global emissions

South America: 40 billion tonnes CO<sub>2</sub>  
3% global emissions

### Oceania

20 billion tonnes CO<sub>2</sub>  
1.2% global emissions

Australia: 17.4 billion t, 1.1%

New Zealand: 2.6 billion t, 0.1%

Figure 10. cumulative global CO<sub>2</sub> emissions from fossil fuels combustion and cement production by country, from 1751 to 2017. **N.B.:** this represents domestic emissions (production-based) and it is not corrected for emissions embedded in trade (consumption-based) ([OurWorldInData - Who has contributed most to global CO<sub>2</sub> emissions?](#)).

## Solution: Adjusted starting price & non-pricing approaches

From the IMF Staff Climate Note - [Proposal for an International Carbon Price Floor among Large Emitters](#):

“Given their lower per capita income, smaller contribution to historical emissions, and generally higher emissions intensity of production, lower price floor requirements for emerging market economies (EMEs) may be appropriate and needed to encourage their participation.”

“Provisions allowing for some inclusion of non-pricing approaches [...] may also be needed to accommodate countries for whom, due to domestic political or other factors, standard carbon pricing instruments are difficult to implement or increase.”

### Problem n°3: A high carbon price is socially unsustainable

When implementing a carbon price on fossil fuels, citizens would pay twice:

- directly, when buying fossil fuels for transport or heating;
- indirectly, when buying everyday products, as their price would be gradually incremented along the production chain when each industry and company raise their price to adjust for the additional cost.

A high carbon price could be economically unsustainable for citizens. In 2018, in France, the rise of the carbon tax on fossil fuels is one of the causes of the “Yellow Jackets” movement, a spontaneous, nation-wide popular protest against unfair political measures and the associated precariousness.

On one hand, citizens may not be able to bear the cost of pricey fossil fuels. On the other hand, revenues are raised through a high carbon price...

### Solution: Redistribution with a Carbon Dividend

From the [Economists' Statement on Carbon Dividends](#) (see cover):

“To maximize the fairness and political viability of a rising carbon tax, **all the revenue should be returned directly to [...]² citizens through equal lump-sum rebates.** The majority of [...]² families, including the most vulnerable, will benefit financially by receiving more in “carbon dividends” than they pay in increased energy prices.”

A similar **Carbon Fee & Dividend** policy is implemented in British Columbia since 2008, with [great results](#)³. One is planned for 2022 in Austria and one is currently discussed in the U.S.A. Senate as a part of the reconciliation bill.

Looking at the [State and Trend of Carbon Pricing in 2021](#) report (p. 29-30), it is worth noting that British Columbia is the only jurisdiction where:

- more than 75% of their GHG emissions is covered, and
- the carbon price is above USD 35 per ton of CO<sub>2</sub>e.

For other jurisdictions, it is either one or the other (or neither).

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<sup>2</sup> In the original text, brackets contain “American”, as the statement was initially written for U.S.A. regards.

<sup>3</sup> See Partnership on Transparency on Paris Agreements: “Lessons from British Columbia’s carbon tax”

## Afterword

This brochure was made to gather the attention of the public and negotiators on (1) the **Carbon Fee & Dividend** policy (CF&D), as endorsed in the Economists' Statement on Carbon Dividends (see cover) and (2) the **International Carbon Price Floor** (ICPF), as detailed in the IMF Climate Note mentioned earlier.

A high carbon price on fossil fuels would allow low-carbon alternatives to thrive. Jointly, the ICPF and CF&D could help overcome the two main obstacles in implementing this high carbon price. An agreement on an ICPF among the world largest GHG emitters would guarantee transparent and fair international economic competitiveness. Nationally implemented CF&D policies would make a high carbon price sustainable for their citizens.

Regarding the ICPF, as the IMF Climate Note puts it, “**negotiating based on minimum price levels would be transparent** [...]”. And an agreement among the major economies would strongly influence other countries to follow suit.”

Additionally: “Besides carbon pricing (or other mitigation instruments), supporting policies will also be needed (for example, public investments in clean technology, infrastructure networks and critical technologies, and measures to promote just transitions). These supporting measures can be largely decided at the national level, however.”

Relevant to the topic is also the OECD and World Bank's [FASTER principles for successful carbon pricing](#): **F**airness, **A**lignment of Policies and Objectives, **S**tability and Predictability, **T**ransparency, **E**fficiency and cost-effectiveness, **R**eliability and Environmental Integrity. A carbon fee as described in the Economists' Statement on Carbon Dividends could satisfy those principles.

Also relevant would be the [Discussion paper on governmental carbon pricing](#) written by the U.N.-Convened Net-Zero Asset Owner Alliance.

This leaflet only briefly described the ICPF idea and skipped many subtleties. **Please read directly the [original paper](#)**, which is only 12 pages long. As written in it, “to ensure the arrangement is effective and provides incentives for sustained participation among key parties, getting the design details right for an ICPF would be critical.”

Thanks for reading and have a good COP26!

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